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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,831	07/28/2004	Stefan Bertil Ohlsson	2003M082	2472

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ExxonMobil Chemical Company
Law Technology
P.O. Box 2149
Baytown, TX 77522-2149

EXAMINER	
TESKIN, FRED M	
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1796	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/796,831	OHLSSON ET AL.	
	Examiner	Art Unit	
	Fred M. Teskin	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-127* is/are pending in the application.

4a) Of the above claim(s) *23-124* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22 and 125-127* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This Office action follows an Amendment filed on September 10, 2007 and a Reply filed on December 21, 2007, in response to the Office Communication mailed November 27, 2007. Claims 1-127 are currently pending, with claims 23-124 standing withdrawn from further consideration pursuant to a restriction requirement. Claims 125-127 have been added and, being drawn to the elected invention, will be examined together with claims 1-22.

This application contains claims 23-124, drawn to an invention nonelected with traverse in the reply filed on February 12, 2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

The rejection of claims 1-22 under 35 U.S.C. 112, second paragraph, has been obviated by the amendments made to claims 1 and 17.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 17-19 and 127 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 4988781 (McKinney et al).

McKinney et al disclose homogeneous, modified copolymer of ethylene and an olefinically unsaturated carboxylic acid or (meth)acrylate, prepared in a stirred autoclave (see col. 1, ll. 13-15 and col. 3, ll. 35-40). The modified copolymer is said to have, *inter alia*, appreciably reduced levels of long chain branching, a melt index in the range of, most preferably, 0.5-25 g/10 min. and contain about 65-99 % of ethylene and about 0.1-35 % of the comonomer, preferably about 1-12 % (col. 5, ll. 34-44 and col. 6, ll. 1-6). Described properties of the modified copolymer, such as a narrower molecular weight distribution and reduced long chain branching, are obtained by use of a chain transfer agent or telogen (see Examples 2-4, 6 and 8 and col. 10, ll. 9-15). The patentees state that the chain transfer agent or telogen is referred to in the ethylene homopolymerization art as a coreactant, since it eventually combines in the copolymerization to form a telomerized copolymer, and list specific compounds including propylene as suitable telogens (see col. 7, ll. 41+).

McKinney et al do not explicitly disclose the claim limitations directed to density, number of short chain branches and rheological relaxation time. However, where the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness is established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

In this case, McKinney et al teach production of a modified ethylene copolymer having statistically *shorter chain lengths* and *more branches* in contradistinction to a copolymer comprised of molecules with less branches and statistically longer chain lengths, by a substantially identical process to applicants'; that is, by free radical

polymerization in a stirred autoclave using a chain transfer agent that combines in the copolymerization (see col. 6, ll. 1-6 and col. 8, ll. 35+). The instantly claimed polymer is similarly prepared (*cf.*, Specification page 9).

In view of the similarity in preparation procedure and properties (e.g., copolymer composition, melt flow index and reduced long chain branching), there is a plausible basis for inferring that the undisclosed properties of the instantly claimed polymer are intrinsic features of the modified copolymer described in McKinney et al. Where, as here, there is sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not. *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Claims 1-17, 19-22, 125 and 126 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 3029230 (Strauss).

Strauss discloses a telomerized copolymer of ethylene and vinyl acetate containing propane incorporated into the polymer as telogen and which meets the claim limitations as to mole % units derived from a copolymerizable ethylenically unsaturated ester as well as density and melt index (see Examples XIII-XV of Table IV and Claim 1 in col. 7).

The claimed parameters of rheological relaxation time and number of short chain branches are not explicitly disclosed; however, since the Strauss copolymer and the applicants' polymer are prepared by substantially similar procedures (i.e., free radical

polymerization in an autoclave or tubular reactor in the presence of a chain transfer agent/telogen that incorporates into the polymer chain; see col. 3, ll. 10+ and *cf.*, Specification page 8, bridging paragraph and page 9, first full paragraph), a plausible basis exits for inferring that the undisclosed properties of the instantly claimed polymer are intrinsic features of the cited embodiments of Strauss. Thus, as in the preceding rejection, the burden properly shifts to applicants to show that the property or characteristic recited in the claims represents an unobvious difference. *In re Best*, 195 USPQ 430 (CCPA 1977).

Applicants' arguments with respect to claims 1 and 17 have been fully considered but are not persuasive of error in the repeated rejections.

Regarding McKinney, it is argued that the reference does not teach, show or suggest a polymer comprising units derived from ethylene and units derived from a copolymerizable ethylenically unsaturated ester, as required in base claims 1 and 17.

To respond: the argument is not commensurate in scope with claim 17, in that the phrase "less than 3.5 mol %" added thereto literally reads on 0 mol % of units derived from a copolymerizable ethylenically unsaturated ester and the open ("comprising") transitional language does not exclude the presence of unspecified comonomers such as an olefinically unsaturated carboxylic acid or (meth)acrylate as per McKinney. Hence claim 17, as well as the rejected claims depending therefrom, embrace polymers identical in composition to the modified copolymer of McKinney.

It is further argued that the polymer of McKinney is not similarly prepared to the instantly claimed polymer, based on the disclosure at column 1, ll. 18-34.

To respond: to the extent the cited disclosure indicates well-stirred reactors are favored by McKinney over nonstirred tubular reactors, this does not evince a difference in preparation relative to the instantly claimed polymer. In fact, the cited disclosure teaches use of "well stirred reactors", and McKinney subsequently identifies a continuous autoclave as the preferred reactor (col. 8, ll. 45-47). Applicants likewise teach that the free radical polymerization may be performed in a stirred autoclave (Specification, p. 9, ll. 4-5). Thus, the claimed polymer may be prepared in the same type of reactor used to synthesize the McKinney copolymer, and under free radical polymerization conditions, using a chain transfer agent that combines in the copolymerization (col. 7, ll. 47).

It is further argued that McKinney makes no mention of polymer density, nor the number of C1 to C5 short chain branches nor the rheological relaxation time, which properties are said to be "required in every claim".

To respond: examiner finds no positive limitations as to polymer density or rheological time in claim 17, 18, 19 or 127. Moreover, given the similarity in preparation procedure and identity of commonly disclosed properties as discussed above, it is maintained that a plausible basis exists to conclude the undisclosed properties of the instantly claimed polymer, such as number of short chain (C5 or less) branches, are intrinsic features of the copolymer as taught by McKinney.

Regarding Strauss, it is argued that the reference discloses copolymers of ethylene and vinyl monomers, not inter-polymers of ethylene, and that the disclosure of copolymers of ethylene and vinyl monomers having 0.5 to 3 mol percent vinyl ester does not equate to a polymer comprising units derived from ethylene with 1 to 3.5 mol % (or up to 3.5 mol %) units derived from copolymerizable ethylenically unsaturated ester, as required in the claims.

To respond: it is firstly noted the term "inter-polymers" is nowhere recited in the present claims. Second, specific embodiments of Strauss are directed to ethylene copolymers containing vinyl acetate at mole percent levels well within the claimed ranges - e.g., 0.9 and 0.7 mol % (per Strauss Examples I-III in Table II) - and vinyl acetate is a species of applicants' "copolymerizable ethylenically unsaturated ester" according to the instant specification. In fact, with reference to Figures 1 and 2 hereof, the specification describes (page 20, ll. 1-2) a monomer feed of ethylene, vinyl acetate and transfer agent. Stauss teaches a copolymer prepared from the same two monomers and containing propane incorporated into the polymer as telogen (col. 7, ll. 28-30), which meets the limitation of claim 17 as to "chain transfer agent that incorporates into the polymer chain".

It is further argued that Strauss is silent with regard to chain branching and rheological relaxation time and makes no mention of the number of C1 to C5 short chain branches.

To respond: the asserted silence of Strauss in regard to number of short chain branches and rheological relaxation time is not disputed. Nevertheless, an inference of

lack of novelty may be properly drawn where the Office has reason to believe that a property or functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). Here, the applicants' polymer and the Strauss copolymer are prepared by substantially similar procedures as detailed above and share common properties including density and melt index values. This provides ample reason to believe that the undisclosed parameters of applicants' claims directed to number of short chain branches and rheological relaxation time may be inherent features of an ethylene copolymer prepared as per Strauss.

Thus, as in *Best*, the burden shifted to applicants to show that the undisclosed properties of the claimed invention do not inhere in the products of the prior art, but no probative showing was proffered to rebut the *prima facie* case of unpatentability. Accordingly, the continued rejections are still deemed tenable and therefore must be maintained.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fred M Teskin/
Primary Examiner, Art Unit 1796